

WAVELENGTH DIVISION MULTIPLEXING  
OPTICAL TRANSMISSION APPARATUS

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ABSTRACT OF THE DISCLOSURE

10 The present invention is directed to the provision  
of a wavelength division multiplexing optical  
transmission apparatus and, more particularly, to a  
wavelength division multiplexing optical transmission  
apparatus having high wavelength stability unaffected by  
the temperature characteristics, aging, etc. of an  
15 arrayed-waveguide grating (AWG) and its peripheral  
components. The wavelength division multiplexing optical  
transmission apparatus comprises: an arrayed-waveguide  
grating 10 having operating input/output ports and an  
input dummy port; a light emitting means 21 for  
20 generating a pilot signal to be input to the input dummy  
port; a light detecting means 22 for monitoring the pilot  
signal contained in a wavelength division multiplexed  
signal output from the operating output port; and a  
temperature control circuit 11 for controlling the  
25 temperature of the arrayed-waveguide grating in such a  
manner as to cancel the amount of wavelength fluctuation  
occurring in the arrayed-waveguide grating and detected  
by monitoring the pilot signal.